

FIELD TRIPS OF THE CLUB

TRIP OF JUNE 18 TO FREEHOLD, N. J.

Botanical exploration in New Jersey has had its greatest interest in the pine barrens and in the limestone areas in the northwestern part of the state. The intermediate areas have been somewhat neglected, and it was felt that the areas west and southwest of Pemberton might well offer some things of botanical interest. To me especially it would be interesting to find a good stand of *Listera australis*, which is known from a single collection on Long Island and a very few scattered collections in New Jersey. Dr. Small and other members of the party met us at Freehold, increasing the number to twelve.

Proceeding westward from Freehold we stopped at an old fallow field covered with a good deal of *Convolvulus sepium*, *Euphorbia corollata*, and *Carex annectens*. These are common species of no great interest except in their abundance. A few miles southwest of Freehold toward Smithville we came to the first wild area of *Pinus rigida*, with an equal amount of *P. echinata*. It is difficult for people at first to distinguish between the two species, but after the trees are once seen and carefully observed the short needles, small cones, and upward tilt of the branches of *P. echinata* can be readily distinguished. It was Dr. Chrysler who first pointed out to me during the Atlantic City meeting a few years ago the great frequency of *P. echinata* in the pine barrens and the distinguishing features by which it can be recognized. On roadside cuts *Tephrosia virginiana* was in full flower, exposing the long roots which have earned it such a name as "devil's shoe-strings" in the South. We were pleasantly surprised by the great amount of mayflower, *Epigaea repens*, in these woods.

Continuing southward on the old road to Prospertown we cut into the open margin of a pine barren swamp with the usual flora: *Xerophyllum asphodeloides*, a few inflorescences still intact; *Leiophyllum buxifolium*; *Polygala lutea*; and traces of the beautiful purple-scaled pine barren sedge *Carex Barrattii*, which proved to be fairly abundant in the open, very wet bogs closer to the road, where it was accompanied, as is so often the case, by *C. bullata*. At the edge of a ditch *Glyceria canadensis* was abundant, a species certainly not common in the pine barrens and perhaps an

introduction through roadside fill. Along this ditch were found three sundews, *Drosera rotundifolia*, *D. longifolia*, and *D. filiformis*, in abundance. The greatest interest of the party seemed to be in the great abundance of shadbush, *Amelanchier oblongifolia*, loaded down with juicy purple fruits which in their estimation were better than the blueberries which were also abundant, both the high-bush and low-bush. We do not hear very much about the use of *Amelanchier* fruits; they are used (especially *A. oblongifolia*) for pies on Cape Cod under the name "swamp cherry." On the opposite side of the road (that is, toward the west) a path led into a cranberry bog partially abandoned. Here there were splendid examples of the giant club moss of the pine barrens, *Lycopodium alopecuroides*, and good stands of chain ferns, *Anchistea virginica* and *Lorinseria areolata*.

Under the kind leadership of Dr. Small we proceeded south to Prospertown, where we had lunch at the ruins of an old mill dam, now overgrown with a fine display of fox grape, *Vitis labrusca*, the leaves, entire to 3-parted, showing a gleaming white tomentum. Nearby we were shown a fine stand of *Opuntia*, now in full flower along pathways in the sandy woods.

J. J. COPELAND

TRIP OF JUNE 25 TO QUARRY LAKE

Sixteen members and guests were present on this trip to the Nathan Straus estate at Valhalla, N. Y. The Club and its Field Committee are deeply grateful to Mr. and Mrs. Straus for their great kindness and courtesy in making this trip to their beautiful estate possible and for their wonderful hospitality to the group. Our sincere thanks are due also to Mr. and Mrs. Ernst Hoelle, who so generously guided us over the estate, provided delicious refreshments, and did so much to make the day a perfect one.

Most of the estate's 42 acres were explored, including the beautiful rock garden, stately formal garden, arboretum, fruticetum, pine plantation, orchards, decorative walks and borders, landscaped spring-fed Quarry Lake (75 feet deep) and its sandy beach, the extensive natural woods, and bridle paths. Mr. Hoelle imparted to the group a vast amount of valuable information on the making of the perfect lawns found on the estate, spraying against borers of peaches and nectarines, transplanting, grafting, making successful

cuttings, methods of control of borers of pines and other insect pests and fungous diseases, purifying and chlorinating the water-supply, pruning to give desired effects, landscaping, flagstone-pathway planting, etc.

Among the hundreds of interesting plants identified were *Cotoneaster horizontalis* (rockspray), *Hummelmannia fumariacifolia* (Mexican tulip-poppy), *Hedera helix* var. *baltica* (Baltic ivy), *Lychnis coronaria* (mullen-pink), *Picea omorika* (Serbian spruce), *Centaurea moschata* (sweet-sultan), *Ulmus parvifolia* (Chinese elm), *Arnebia cornuta* (Arabian-primrose), *Paeonia suffruticosa* (tree-peony), *Kolkwitzia amabilis* (beauty-bush), *Thermopsis caroliniana* (Aaron's-rod), *Lonicera tatarica*, *Viticelal jackmani*, *Sorbus hybrida*, *Ceratostigma willmottianum*, *Spiraea henryi*, *Hydrangea bretschneideri*, *Penstemon barbatus*, *Arctotis breviscapa*, *Hypericum patulum* var. *henryi* (flowers 2½ inches across!), *Magnolia soulangeana* var. *lennei*, *Viburnum theiferum*, *Symplocos paniculata*, *Campanula garganica*, *C. latifolia*, *C. bononiensis*, *C. lactiflora* var. *cocerulea*, *Dicentra formosa*, *Inula ensifolia*, *Aquilegia longissima*, *Heliophila linearifolia*, *Ursinia anthemoides*, *Zinnia haageana*, *Abies nordmanniana*, *Daphne cneorum*, *Philadelphus lemoinei* and its var. *erectus*, *Lilium martagon* (with dull purple-black flowers), *L. candidum* (Madonna lily), *L. tenuifolium*, *L. dauricum*, *Salvia farinacea*, *Mimulus cardinalis* var. *grandiflorus*, *Matricaria parthenoides*, *Ismene calathina*, *Heliopsis scabra* var. *zinniaeflora*, and our own native *Liatris scariosa*, *Ilex opaca*, *Magnolia virginiana*, the rare *Tsuga canadensis* var. *pendula* and *Franklinia alata*, and a fine ground-cover, *Uva-ursi procumbens* (bearberry). Those interested in edible plants found quantities of *Prunus armeniaca* (apricot), *Amygdalus persica* var. *nucipersica* (nectarine), *Castanea sativa* (Eurasian chestnut), *Cynara scolymus* (artichoke), *Tragopogon porrifolius* (oyster-plant) *Beta vulgaris* var. *cicla* (Swiss-chard), *Brassica caulorapa* (kohl-rabi), and *B. oleracea* var. *italica* (broccoli) and var. *botrytis* (cauliflower). A great number of species and varieties of *Sedum*, *Thymus*, *Chamaecyparis*, *Juniperus*, *Taxus*, *Pinus*, *Picea*, *Abies*, *Euonymus*, and *Syringa* (including *S. amurensis* in bloom!) were pointed out. Box and hemlock hedges, European beeches, galls on oaks and goldenrods, bagworms on scrub oaks, grebes on the lake, and beavers along its margin, all came in for their share of attention.

In the native woods and along the trails quantities of whorled loosestrife (*Lysimachia quadrifolia*) were found in bloom, including the anomalous opposite-leaved form apparently developing when the main stem is decapitated and side branches are produced. The anise-scented goldenrod (*Solidago odora*) was very common, and three species of cinquefoil (*Potentilla argentea*, *P. recta*, and *P. monspeliensis*), those three common weeds of which so few members seem to know the names—knawel (*Scleranthus annuus*), carpetweed (*Mollugo verticillata*), and devilweed (*Galinsoga ciliata*), and both species of cattail (*Typha angustifolia* and *T. latifolia*) and what appeared to be a natural hybrid between them, were studied.

H. N. MOLDENKE

TRIP OF JULY 22 TO THE FERN GARDEN OF MR. W. H. DOLE,
WEST ORANGE, N. J.

A party of eight gathered to see the sixty-odd species of ferns collected mostly from the northeastern states, but including a number from the west and from the orient, all growing together in a comparatively small area. Here it has been demonstrated that most of our hardy ferns are easily satisfied and can be grown to advantage under ordinary garden conditions, if a little attention is given to their requirements as to soil, position, light and moisture. Many ferns, however, do equally well in positions somewhat different from their normal habitats. *Dryopteris goldiana* in a dry position at the top of the slope is as thrifty, though not as large, as specimens grown in a moister position at the foot of the bank. The specimens at the top of the slope were set in place some ten years ago and have increased in number.

A fine specimen of *Osmunda regalis* (now a group of six or eight) 48 inches and more in height has been growing in a comparatively dry position for twenty years and its self-sown sporlings, of which a dozen or more have appeared on the dry slope, were in each case above the parent fern though generally from under the edge of a stone.

The great variety of shades and tints of green in the fronds of the different species lends an added charm to the fern garden and much can be done in the grouping of ferns to bring out the contrasting tints. The bright yellow-green of *Thelypteris noveboracensis* is in sharp contrast to the blue-green of *T. palustris* (marsh

fern) or the brownish green of *Dryopteris cristata* or the bluer green of *D. clintoniana*.

It was noted that some of the characteristics by which ferns can be identified may be lost in herbarium specimens. A frond of *Osmunda cinnamomea* when placed beside one of *O. claytoniana* was shown to be glossy and waxy looking in contrast to the dull matt surface of *claytoniana*. In color both are a deep green in shady locations and a warm yellowish green in the sunlight. Of the spinulose group, *Dryopteris campyloptera* (broad leaf) showed the warmest yellowish green and *D. dilatata* (western broad leaf) the deepest green. These two ferns, similar as pressed specimens, are in sharp contrast when seen growing together.

Among the less common ferns were a group of *Lygodium palmatum* with the fertile portions of the fronds nearly fully developed, *Thelypteris simulata*, *Anchistea virginica*, *Lorinseria arcolata* with fertile fronds still green, *Asplenium ruta-muraria* var. *cryptolepis*, *Phyllitis scolopendrium*, in a shady "well-top" of limestone, *Woodsia ilvensis* in several locations in the rock garden, *Cheilanthes lanosa* in a fairly sunny position in the rock garden where it has grown happily with increase for five or six years, *Polystichum braunii* (this has shown itself a good fern for the garden, several specimens brought from Greene County, N. Y., as small plants five years ago are now much larger and finer than when planted), *Pellaea atropurpurea*, *Camptosaurus rhizophyllus* (protected by wire screening to prevent uprooting by birds). A specimen of *Dryopteris floridana* (*ludoviciana*) with its glossy deep green, waxy looking fronds, planted in the garden a year ago, came through the winter with only slight protection.

Among the western ferns that have proved successful as garden material are *Lomaria* (*Blechnum*) *spicant* from Oregon, said to grow further north than any other fern, *Athyrium alpestre* var. *americanum* from Mt. Ranier, *Athyrium filix-femina* (*A. cyclosorum*), *Dryopteris nevadensis*, *D. dilatata*, *D. filix-mas* from Colorado, *Polystichum munitum*, *Woodwardia fimbriata* (*W. radicans* var. *americana*) the California giant chain fern, which has gone through three winters protected with litter, and *Cryptogramma crispa* var. *acrostichoides* (parsley fern).

Dryopteris hybrids are well represented and include *D. cristata* × *intermedia* (*bootii*)—in several forms from small to large plants

which may include *D. clintoniana* × *intermedia*), *D. cristata* × *marginalis*, *D. goldiana* × *marginalis* and *D. goldiana* × *clintoniana*.

W. HERBERT DOLE

TRIP OF JULY 30 TO THE LOWER RARITAN RIVER

On Sunday, July 30, a congenial group of eight enjoyed a trip to marshes of the lower Raritan River and Raritan Bay. Three distinct lowland types were included.

At New Brunswick a fresh water marsh showing a slight infiltration of salt tolerant plants was visited. Dominant species here were *Calamagrostis canadensis*, *Acorus Calamus*, *Phalaris arundinacea*, *Impatiens biflora*, *Elymus virginicus*, *Rudbeckia laciniata*, *Eupatorium purpureum*, *Peltandra virginica* and *Zizania palustris* among others. Five miles downstream near Sayreville a large brackish area was characterized by *Spartina cynosuroides*, *Phragmites communis*, *Typha angustifolia*, *Typha latifolia*, *Erechtites hieracifolia*, *Panicum virgatum* and *Hibiscus moscheutos*. A typical salt marsh was visited at Morgan, on Raritan Bay, this having the usual association of *Spartina patens*, *Distichlis spicata*, *Juncus Gerardi*, *Iva oraria*, *Salicornia* sp. and *Spartina glabra*. Another nearby lowland was largely occupied by *Typha*, *Hibiscus*, sedges and fine stands of *Glyceria obtusa*. Approximately 100 species were seen.

The trip was led by Doctors M. A. Johnson and W. E. Roever of the Department of Botany, Rutgers University, New Brunswick, N. Y.

W. E. ROEVER

TRIP OF JULY 23 TO HIGH ROCK STATE PARK NEAR SEYMOUR, CONN.

A group of sixteen persons gathered at the Seymour R. R. station and proceeded to the park, which in former years was a popular picnic and recreation ground.

Mr. A. E. Blewitt of the Connecticut Botanical Society showed the Mountain Spleenwort, *Asplenium montanum*, growing on an enormous boulder in the parking area and although the plants were small it did not seem necessary to make a hard climb to locate more luxuriant individuals. A little way from the parking space a beautiful group of Mountain Mint *Pycnanthemum incanum* was seen by the roadside and several specimens of Matricary Grape

Fern, *Botrychium matricariaefolium* were found in the rocky woods adjoining.

After eating lunch at picnic tables maintained by the State the party explored the ravine of Spruce Brook, noting the Twisted Stalk, *Streptopus roseus* in fruit with bright scarlet berries and the Moose Wood, *Acer pennsylvanicum*. A little higher up a plant of Green Fringed Orchis *Habenaria lacera* was seen in flower. Near the top of the climb where the land was somewhat more level was a large stand of Whorled Pogonia, *Isotria verticillata*, some showing immature fruit. Still higher up the ladies discovered a quantity of blueberries which were enjoyed more for their flavor than for their botanical interest.

E. B. HARGER

PROCEEDINGS OF THE CLUB

MEETING OF APRIL 4, 1939

The meeting at the American Museum of Natural History was called to order by the President at 8.15 P.M.

Sixty-nine persons were present.

The following people were elected to associate membership: Miss Catherine Sheridan, 658 West 188th Street, New York; Miss Esther Barag, 2995 Marion Avenue, New York; Mr. Seymour Barrett, 1025 Gerard Avenue, New York; Miss Anna E. Lofgren, 575 West 172nd Street, New York; and Mrs. Edith J. Hastings, 2587 Sedgwick Avenue, New York.

The resignation of Dr. Gilbert L. Stout, Office of Plant Pathology, Department of Agriculture, Sacramento, Calif., from annual membership was accepted with regret.

The scientific program consisted of an illustrated lecture on Eucalyptus of California by Mr. George T. Hastings. The author's abstract follows:

"There are growing in California probably over two hundred species of Eucalyptus. Of these the most common is the blue gum, *Eucalyptus globulus*, which was introduced into the state in the late 1850s or early 1860s. It is also the most commonly grown eucalypt in other parts of the world where they have been introduced. The claims made twenty or thirty years ago that the growing of eucalypts would be a profitable business on dry land have not proved true, but as a shade and ornamental tree, for windbreaks in citrus groves and for the production of fire wood the trees are of great